



# Calculation Sample

Annex D – Calculation log - Expected energy savings and/or renewable energy production

MARCH 2021



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# ANNEX D

## EXPECTED ENERGY SAVINGS AND/ OR RENEWABLE ENERGY PRODUCTION



<b>Investment sector</b> (acc. to the sectors selected in the summary)
<b>Investment component</b> (by sector)
<b>Brief description of investment component</b>

Public buildings

Heating system in education buildings

Fuel switch from diesel to gas

Type of energy saving measure	Final energy consumption (GWh/year)			Substitution of energy source (GWh/year) To be filled only in case of substitution of the energy source				CO <sub>2</sub> emissions (t CO <sub>2</sub> eq/year)			Emission factor	Source of emission factor
	Energy source	before	after	New energy source	Emission factor (new source)	Energy consumption before (substituted source)	Energy consumption after (new source)	before	after	savings		
Replacement	Diesel			Natural gas	202	100	100	31400	20200	11200	314	Covenant of Mayors guidebook, Annex 1 - diesel fuel



**CO<sub>2</sub> EMISSION SAVINGS**

**11,200**

(t CO<sub>2</sub>eq/year)

THE PURPOSE OF THIS CALCULATION SAMPLE IS TO PROVIDE EUCF APPLICANTS WITH EFFECTIVE SUPPORT FOR THE PLANNING AND CALCULATION OF THE ENERGY SAVINGS AND/OR RENEWABLE ENERGY GENERATION OF THEIR INVESTMENT PROJECTS. PLEASE NOTE THAT THE VALUES PROVIDED ARE EXAMPLES AND ONLY SERVE AS SUCH.



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EXPECTED ENERGY SAVINGS AND/ OR RENEWABLE ENERGY PRODUCTION



<b>Investment sector</b> (acc. to the sectors selected in the summary)
<b>Investment component</b> (by sector)
<b>Brief description of investment component</b>

## Residential buildings

Thermal insulation of buildings connected to DH system

Insulating walls and replacing windows/ doors

Type of energy saving measure	Final energy consumption (GWh/year)			Energy savings (GWh/year)	RE generation (GWh/year)	CO <sub>2</sub> emissions (t CO <sub>2</sub> eq/year)			Emission factor	Source of emission factor
	Energy source	before	after			before	after	savings		
Optimization	Heat/cold	100	40	60		37500	15000	22500	375	Covenant of Mayors guidebook, Annex 1 - lignite district heating



**ENERGY SAVINGS**

**60**  
GWh/year



**CO2 EMISSION SAVINGS**

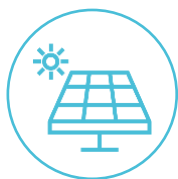
**22,500**  
(t CO<sub>2</sub>eq/year)

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EXPECTED ENERGY SAVINGS AND/ OR RENEWABLE ENERGY PRODUCTION



<b>Investment sector</b> (acc. to the sectors selected in the summary)
<b>Investment component</b> (by sector)
<b>Brief description of investment component</b>

## Building integrated renewables

Solar PV installation

Public buildings roof-top solar PV installation

Type of energy saving measure	Final energy consumption (GWh/year)			RE generation (GWh/year)	CO <sub>2</sub> emissions (t CO <sub>2</sub> eq/year)			Emission factor	Source of emission factor
	Energy source	before	after		before	after	savings		
New installation	Electricity			50			8500	170	Covenant of Mayors guidebook, Annex 1 - electricity mix in the project specific country



**RE generation**

**50**  
GWh/year



**CO<sub>2</sub> EMISSION SAVINGS**

**8,500**  
(t CO<sub>2</sub>eq/year)

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# Calculation Log – ALL

Investment sector (acc. to the sectors selected in the summary)	Investment component (by sector)	Brief description of investment component	Type of energy saving measure	Final energy consumption (GWh/year)			Substitution of energy source (GWh/year) To be filled only in case of substitution of the energy source				Energy savings (GWh/year)	RE generation (GWh/year)	CO <sub>2</sub> emissions (t CO <sub>2</sub> eq/year)			Emission factor	Source of emission factor
				Energy source	before	after	New energy source	Emission factor (new source)	Energy consumption before (substituted source)	Energy consumption after (new source)			before	after	savings		
Public buildings	Heating system in education buildings	Fuel switch from diesel to (gas)	Replacement	Diesel			Natural gas	202	100	100	0		31400	20200	11200	314	Covenant of Mayors guidebook, Annex 1 - diesel fuel
Residential buildings	Thermal insulation of buildings connected to DH system	Wall insulation and windows / doors replacement	Optimization	Heat/cold	100	40					60		37500	15000	22500	375	Covenant of Mayors guidebook, Annex 1 - lignite district heating
Building integrated renewables	Solar PV installation	Public buildings roof-top solar PV installation	New installation	Electricity							0	50	0	0	8500	170	Covenant of Mayors guidebook, Annex 1 - electricity mix in the project specific country
<b>TOTAL</b>					<b>100</b>	<b>40</b>			<b>100</b>	<b>100</b>	<b>60</b>	<b>50</b>	<b>68900</b>	<b>35200</b>	<b>42200</b>		

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